CLAIMS

1. A stent in a non-expanded state, comprising:

a first expansion column including individual first expansion struts forming a plurality of first expansion strut pairs, at least a portion of each first expansion strut having a stair-step region, two adjacent first expansion strut pairs share a common strut;

a second expansion column including individual second expansion struts forming a plurality of second expansion strut pairs, at least a portion of each second expansion strut having a stair-step region, two adjacent second expansion strut pairs share a common strut;

a first connecting strut column including a plurality of non-intersecting individual first connecting struts that couple only the first and second expansion columns, wherein each of an individual first connecting strut includes a proximal section and a distal section, at least a portion of the proximal section of each first connecting strut extending from a portion of the stair-step region of one of the first expansion struts, at least a portion of the distal section of each first connecting strut extending from a portion of the stair-step region of one of the second expansion struts,

each proximal section having a longitudinal axis and each distal section having a longitudinal axis, at least one of the longitudinal axis of each proximal section and the longitudinal axis of the distal section being parallel with at least one of a longitudinal axis of each first expansion strut and a longitudinal axis of each second expansion strut.

2. The stent of claim 1, wherein each first connecting strut of the first connecting strut column has a stair-step configuration.

3. The stent of claim 1, wherein one expansion strut of an expansion strut pair of the first expansion column has a stair-step segment at a proximal end and a stair-step segment at a distal end.

4. The stent of claim 3, wherein the other expansion strut of the expansion strut pair of the first expansion column is a straight segment.

5. The stent of claim 4, wherein one expansion strut of an expansion strut pair of the second expansion column has a stair-step segment at a distal end and a stair-step segment at a proximal end.

6. The stent of claim 5, wherein the other expansion strut of the expansion strut pair of the second expansion column is a straight segment.

7. The stent of claim 1, wherein the proximal section of each first connecting strut has an edge that is a linear extension of an edge of an expansion strut in the first expansion column, and the distal section of each first connecting strut has an edge that

is a linear extension of an edge of an expansion strut in the second expansion column.

8. The stent of claim 7, wherein a strain relief notch is formed where the edge of the proximal section of each first connecting strut in the first connecting strut column is conjoined with the edge of the expansion strut of the first expansion column, and a strain relief notch is formed where the edge of the distal section of each first connecting strut in the first connecting strut column is conjoined with edge of the expansion strut of the second expansion column.

9. The stent of claim 1, wherein the distal section of each first connecting strut of the first connecting strut column has a greater length than its proximal section.

10. The stent of claim 1, wherein each first connecting strut of the first connecting column is ipsilaterally conjoined to the first and second expansion columns.

11. The stent of claim 1, wherein each first connecting strut of the first connecting column is contralaterally conjoined to the first and second expansion columns.

12. The stent of claim 1, wherein the longitudinal axis of the proximal section of each first connecting strut of the first connecting strut column is non-parallel to the longitudinal axis of its distal section.

13. The stent of claim 1, wherein each first connecting strut of the first connecting strut column includes an intermediate section coupled to the proximal and distal sections of the first connecting strut.

14. The stent of claim 13, wherein the intermediate section of each first connecting strut of the first connecting strut column has a greater length than a length of its proximal section.

15. The stent of claim 13, wherein at least a portion of the intermediate section of each first connecting strut of the first connecting strut column has a curvilinear geometric configuration.

16. The stent of claim 15, wherein at least a portion of the proximal and distal sections of each first connecting strut of the first connecting strut column have a curvilinear geometric configuration.

17. The stent of claim 13, wherein the intermediate section of each first connecting strut of the first connecting strut column has a longitudinal axis that is nonparallel to a longitudinal axis of the stent.

18. The stent of claim 13, wherein the intermediate section of each first connecting strut of the first connecting strut column has a longitudinal axis that is positioned diagonally relative to a longitudinal axis of the stent.

19. The stent of claim 13, wherein the intermediate section of each first connecting

strut of the first connecting strut column has a longitudinal axis that extends in a vertically diagonal direction relative to a longitudinal axis of the stent.

20. The stent of claim 13, wherein at least a portion of the intermediate section of each first connecting strut of the first connecting strut column is in close proximity to an expansion strut pair of the first expansion column.

21. The stent of claim 1, wherein a width of the proximal section of each first connecting strut in the first connecting strut column is less than a width of the expansion strut of the first expansion column, and a width of the distal section of each first connecting strut of the first connecting strut column is less than a width of the expansion strut of the second expansion column.

22. The stent of claim 1, further comprising:

a plurality of expansion columns coupled by a plurality of connecting strut columns.

23. The stent of claim 1, further comprising:

a third expansion column including individual expansion struts forming a plurality of expansion strut pairs, wherein two adjacent expansion strut pairs share a common strut;

a second connecting strut column including a plurality of non-intersecting individual second connecting struts that couple only the second and third expansion columns, wherein each of an individual second connecting strut of the second connecting strut column includes a proximal section with a longitudinal axis that is parallel with a longitudinal axis of an expansion strut in the second expansion column, and a distal section with a longitudinal axis that is parallel with a longitudinal axis of an expansion strut of the third expansion column.

24. The stent of claim 1 wherein the stent is bifurcated.

25. The stent of claim 1wherein at least a portion of the stent is coated with at least one therapeutic agent.

26. The assembly of claim 25 wherein the at least one therapeutic agent is at least one non-genetic therapeutic agent selected from at least one member of the group consisting of: anti-thrombogenic agents such as heparin, heparin derivatives, urokinase, and PPack (dextrophenylalanine proline arginine chloromethylketone); anti-proliferative agents such as enoxaprin, angiopeptin, monoclonal antibodies capable of blocking smooth muscle cell proliferation, hirudin, and acetylsalicylic acid; anti-inflammatory agents such as dexamethasone, prednisolone, corticosterone, budesonide, estrogen, sulfasalazine, and mesalamine; antineoplastic/antiproliferative/anti-miotic

agents such as paclitaxel, 5-fluorouracil, cisplatin, vinblastine, vincristine, epothilones, endostatin, angiostatin and thymidine kinase inhibitors; anesthetic agents such as lidocaine, bupivacaine and ropivacaine; anti-coagulants such as D-Phe-Pro-Arg chloromethyl keton, an RGD peptide-containing compound, heparin, antithrombin compounds, platelet receptor antagonists, anti-thrombin antibodies, anti-platelet receptor antibodies, aspirin, prostaglandin inhibitors, platelet inhibitors and tick antiplatelet peptides; vascular cell growth promoters such as growth factor inhibitors, growth factor receptor antagonists, transcriptional activators, and translational promoters, vascular cell growth inhibitors such as growth factor inhibitors, growth factor receptor antagonists, transcriptional repressors, translational repressors, replication inhibitors, inhibitory antibodies, antibodies directed against growth factors, bifunctional molecules consisting of a growth factor and a cytotoxin; bifunctional molecules consisting of an antibody and a cytotoxin; cholesterol-lowering agents; vasodilating agents; and agents which interfere with endogenous vascoactive mechanisms, and any combinations thereof.

27. The assembly of claim 25 wherein the at least one therapeutic agent is at least one genetic therapeutic agent selected from at least one member of the group consisting of: anti-sense DNA and RNA; DNA coding for anti-sense RNA, tRNA or rRNA to replace defective or deficient endogenous molecules; angiogenic factors including growth factors such as acidic and basic fibroblast growth factors, vascular endothelial growth factor, epidermal growth factor, transforming growth factor α and β, platelet-derived endothelial growth factor, platelet-derived growth factor, tumor necrosis factor α, hepatocyte growth factor and insulin like growth factor; cell cycle inhibitors including CD inhibitors, thymidine kinase ("TK") and other agents useful for interfering with cell proliferation; at least one of the family of bone morphogenic proteins ("BMP's") such as BMP-2, BMP-3, BMP-4, BMP-5, BMP-6 (Vgr-1), BMP-7 (OP-1), BMP-8, BMP-9, BMP-10, BMP-11, BMP-12, BMP-13, BMP-14, BMP-15, and BMP-16. Any of BMP-2, BMP-3, BMP-4, BMP-5, BMP-6 and BMP-7; dimeric proteins such as homodimers, heterodimers, or combinations thereof, alone or together with other molecules; molecules capable of inducing an upstream or downstream effect of a BMP such as "hedgehog" proteins, or the DNA's encoding them and any combinations thereof.

28. The assembly of claim 25 wherein the at least one therapeutic agent is at least one type of cellular material selected from at least one member of the group consisting of: cells of human origin (autologous or allogeneic); cells of non-human origin

(xenogeneic) and any combination thereof.

29. The assembly of claim 28 wherein the cellular material is selected from at least one member of the group consisting of: side population cells; lineage negative cells; lineage negative $CD34^-$ cells; lineage negative $CD34^+$ cells; lineage negative $^-cKit^+$ cells; mesenchymal stem cells; cord blood bells; cardiac or other tissue derived stem cells; whole bone marrow; bone marrow mononuclear cells; endothelial progenitor cells; satellite cells; muscle derived cells; go cells; endothelial cells; adult cardiomyocytes; fibroblasts; smooth muscle cells; cultures of mesenchymal stem cells with 5-aza forces differentiation into cardiomyocytes; adult cardiac fibroblasts + 5-aza; genetically modified cells; tissue engineered grafts; MyoD scar fibroblasts; Pacing cells; embryonic stem cell clones; embryonic stem cells; fetal or neonatal cells; immunologically masked cells; tissue engineered grafts; genetically modified cells; teratoma derived cells and any combinations thereof.

30. The assembly of claim 25 wherein the at least one therapeutic agent comprises at least one polymer coating, the at least one coating selected from at least one member of the group consisting of: polycarboxylic acids; cellulosic polymers, including cellulose acetate and cellulose nitrate; gelatin; polyvinylpyrrolidone; cross-linked polyvinylpyrrolidone; polyanhydrides including maleic anhydride polymers; polyamides; polyvinyl alcohols; copolymers of vinyl monomers such as EVA; polyvinyl ethers; polyvinyl aromatics; polyethylene oxides; glycosaminoglycans; polysaccharides; polyesters including polyethylene terephthalate; polyacrylamides; polyethers; polyether sulfone; polycarbonate; polyalkylenes including polypropylene, polyethylene and high molecular weight polyethylene; halogenated polyalkylenes including polytetrafluoroethylene; polyurethanes; polyorthoesters; proteins; polypeptides; silicones; siloxane polymers; polylactic acid; polyglycolic acid; polycaprolactone; polyhydroxybutyrate valerate and blends and copolymers thereof; coatings from polymer dispersions such as polyurethane dispersions (BAYHDROL®, etc.), fibrin, collagen and derivatives thereof; polysaccharides such as celluloses, starches, dextrans, alginates and derivatives; hyaluronic acid; squalene emulsions; polyacrylic acid, a copolymer of polylactic acid and polycaprolactone; medical-grade biodegradable materials such as PGA-TMC, Tyrosine-Derived Polycarbonates and arylates; polycaprolactone co butyl acrylate and other co polymers; Poly-L-lactic acid blends with DL-Lactic Acid; Poly(lactic acid-co-glycolic acid); polycaprolactone co PLA; polycaprolactone co butyl acrylate and other copolymers; Tyrosine-Derived Polycarbonates and arylate; poly amino acid; polyphosphazenes; polyiminocarbonates;

polydimethyltrimethylcarbonates; biodegradable CA/PO_4's; cyanoacrylate; 50/50 DLPLG; polydioxanone; polypropylene fumarate; polydepsipeptides; macromolecules such as chitosan and Hydroxylpropylmethylcellulose; surface erodible material; maleic anhydride copolymers; zinc-calcium phosphate; amorphous polyanhydrides; sugar; carbohydrate; gelatin; biodegradable polymers; and polymers dissolvable in bodily fluids; A block copolymers; B block copolymers and any combinations thereof.